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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.       | CONFIRMATION NO.       |
|---|-------------|----------------------|---------------------------|------------------------|
| 10/733,861  | 12/11/2003  | Fredcric Hayem       | 16135US02                 | 8099                   |
| 23446 7590 06/20/2007<br>MCANDREWS HELD & MALLOY, LTD<br>500 WEST MADISON STREET<br>SUITE 3400<br>CHICAGO, IL 60661 |             |                      | EXAMINER<br>CASCA, FRED A |                        |
|   |             |                      | ART UNIT<br>2617          | PAPER NUMBER           |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                               |                              |  |
|------------------------------|-------------------------------|------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/733,861 | Applicant(s)<br>HAYEM ET AL. |  |
|                              | Examiner<br>Fred A. Casca     | Art Unit<br>2617             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 12-30 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-30 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is in response to applicant's amendment filed on March 26, 2007. Claims 1-7 and 12-30 are still pending in the present application. **This Action is made FINAL.**

#### *Claim Rejections – 35 U.S.C. 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 5-7, 13-14, 17-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Neumann et al (U.S. Pub. No. 2002/0141441 A1).

Referring to claim 1, Neumann discloses a multi-mode wireless communication device (abstract, and paragraph 0004, "dual mode", telephone have been developed, in which the telephone is useable in two networks),

comprising a first baseband co-processor configured to execute low-level stack operations of a first wireless communications protocol employed within a first wireless communications network (figures 2-8B, paragraphs 6, 0019-0021, "slave baseband co-processor . . . to provide baseband functions according to a second telecommunications standard", note that the base band functions inherently include function in the physical layer);

a host baseband processor configured to execute a set of protocol stack operations of a second wireless communications protocol employed within a second wireless communications

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network (figures 2-8B, paragraphs 6, and 0019-0021, “master baseband processor adapted to provide baseband function”) and higher-level stack operations of said first wireless communications protocol (figures 2-5B and paragraphs 21-31, 39-39 and 42-46, “GSM master processor 202 also controls the TDMA co-processor” in paragraph 29, and “GSM master processor 202 provides reset control of the TDMA co-processor 204 via the reset control link 250” in paragraph 29 and “if TDMA mode is selected . . . MCU 302 and MCU 310 may exchange various control signaling” in paragraph 39. Note that the GSM master processor 202 provides reset control of the TDMA co-processor 204 via the reset control link 250 and if TDMA mode is selected, MCU 302 and MCU 310 exchange various control signaling, hence the host baseband processor is inherently configured to execute higher-level stack operations of first wireless communications protocol);

and a data communication channel between said host baseband processor and said first baseband co-processor capable of carrying data received by said multi-mode wireless communication device from said first wireless communications network or sent by said multi-mode wireless communication device through said first wireless communications network (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025, “logic interface unit for voice data during a voice call couples the GSM master processor to the TDMA co-processor”);

one or both of said first baseband co-processor and said host baseband processor enabling switching between bearers utilizing low-level stack operations and set of protocol stack operations and maintaining bearer connections during switching (figures 2-8B, and paragraphs 6, and 0019-0021, “the master baseband processor is adapted to select the first mode or second mode and control a plurality of shared interface functions”).

Referring to claim 13, 19 and 23, claims 13, 19 and 23 defines a mobile communication method, a multi-mode wireless communication device, and still another multi-mode communication device reciting features analogous to the features of the mobile communication system defined by claim 1 (as rejected above). Thus, Neumann discloses all elements of claims 13, 19 and 23 (please see the rejection of claim 1 above).

Referring to claim 2, Neumann disclose the device of claim 1, wherein the set of protocol stack operations comprises a complete set of protocol stack operations of said second wireless communications protocol (Neumann, figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025, "first and second baseband processors", "GSM", "TDMA").

Referring to claim 14, Neumann discloses the method of claim 13 wherein executing set of protocol stack operations comprise executing a complete set of protocol stack operations of second wireless communications protocol (Neumann, figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025, "first and second baseband processors", "GSM", "TDMA").

Referring to claims 5, 17, 20 and 24, Neumann discloses the device, method and devices of claims 1, 13, 19 and 23, wherein disclose the low-level stack operations include physical layer functions and bearer-specific stack functions related to first wireless communications protocol (Neumann, figures 2-8B, paragraphs 6, 0019-0021).

Referring to claims 6 and 18, Neumann discloses the device and method of claims 1 and 17 wherein higher-level stack functions comprise stack functions common to first and second

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wireless communication protocols (Neumann, figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025).

Referring to claim 7, Neumann discloses the device of claim 1 wherein host baseband processor is further configured to execute application-layer functions (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025).

Referring to claims 21 and 25, Neumann discloses the device of claims 19 and 23 wherein the low-level stack operations of the second wireless communications protocol comprise physical layer functions and bearer-specific stack function related to the second wireless communications protocol (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025).

Referring to claim 22, Neumann discloses the device of claim 19 wherein the primary processor is further configured to execute application-layer functions (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025).

Referring to claim 26, Neumann discloses the device of claim 23 wherein the third integrated circuit is further configured to execute application-layer functions (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 3-4, 12, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al (U.S. Pub. No. 2002/0141441 A1), in view of Schmidt (US Pub. No. 2003/0067894 A1).

Referring to claims 3 and 15, Neumann discloses the device and methods of claims 1 and 13.

Neumann does not disclose a second baseband processor in communication with host baseband processor via said data communication channel, the second baseband processor configured to execute low-level stack operations of second wireless communications protocol.

Schmidt discloses a second baseband processor in communication with host baseband processor via said data communication channel, the second baseband processor configured to execute low-level stack operations of second wireless communications protocol (Figures 1A-2, abstract, paragraphs 0004, 0010-0011, 23-25, 27-29, 31, 35, 40, 44-46, 49, and 51).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the device of Neumann, by incorporating the teachings of Schmidt into that of Neumann, motivation being to provide a multi-mode wireless device to work with three different system.

Referring to claim 12, Neumann discloses the device of claim 1.

Neumann does not disclose the first wireless communications protocol comprises WCDMA and second wireless communications protocol comprises GSM.

Schmidt discloses the first wireless communications protocol comprises WCDMA and second wireless communications protocol comprises GSM (Schmidt, abstract, and paragraphs 4, and 25).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the device of Neumann by incorporating the teachings of Schmidt into that of Neumann for the purpose of providing two well-known communication systems to interact together and serve a larger subscriber quantity.

Referring to claims 4 and 16, the combination of Neumann/Schmidt disclose the device and method of claims 3 and 15, and further disclose the set of protocol stack operations comprises higher-level protocol stack operations of second wireless communications protocol (Neumann, figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025, "logic interface unit for voice data during a voice call couples the GSM master processor to the TDMA co-processor").

***Allowable Subject Matter***

6. Claims 27-30 are allowed.

**Response to Arguments**

7. Applicant's arguments with respect to claims 1-26 have been carefully considered but are not persuasive.

In response to arguments that Neumann does not teach "a first baseband co-processor configured to execute low-level stack operation of a first wireless communications protocol employed within a first wireless communication network", it is noted that the features upon which the applicant relies (e.g., additional cover) are not cited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *See in re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Low-level stack operations are the operations at the bit levels and it is well known in the art that



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bit level operations are performed at the physical layer, and further Neumann's first baseband co-processor operates on bits to communicate with other elements, thus Neumann inherently teach a first baseband co-processor configured to execute low-level stack operation of a first wireless communications protocol employed within a first wireless communication network. Please see the Communication Networks by Leon-Garcia & Widajaja, and also Wireless Communications and Networks by William Stallings for further clarification.

In response to arguments that Neumann does not teach "one or more of said baseband co-processor and said host baseband processor enabling switching between bearers utilizing said low-level stack operations and said set of protocol stack operations and maintaining bearer connections during said switching", it is noted that the features upon which the applicant relies (e.g., additional cover) are not cited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *See in re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). First, the language of the claims is very broad and can have multiple interpretations. The phrase "**one or both**" is interpreted as either of the processors enables the processor of switching. Second, the word "**enabling**" simply implies that the processor provides some function that helps in the process of switching, therefore, any function by either of the processors that provides a little bit of help in the process of switching can be read into the language of the claim. Third, the phrase "utilizing said low-level stack operations and said set of protocol stack operations" is very broad and also inherent in digital communications. A Low-level stack operation which involves bit-level operations and protocol stack operation are involved in any type of digital communication, and must be utilized in order for communication to take place, particularly during handoff. Digital communications

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take place according to a protocol e.g., TCP/IP and it involves lower level operations and set of stack operation. Further, the phrase "maintaining bearer connections during switching" is inherent during handoff process. Note that a handoff takes between two different network systems in Neumann's teachings, and a handoff process maintains bearer connections, otherwise calls would be disconnected and users probably prompted to reconnect. In Neumann's system communication is handed off (switched) from one bearer to another without dropping the call, hence bearer connections is maintained. Therefore, Neumann's system teaches all elements of the independent claims 1, 13, 19 and 23. Please see the Communication Networks by Leon-Garcia & Widajaja, and also Wireless Communications and Networks by William Stallings for further clarification.

In response to arguments that examiner previously conceded that Neumann does not disclose all elements of the claims, it is noted that during prosecution the case is open to further search and reconsideration.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid, can be reached at (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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